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NATIONAL PRIORITIES LIST SITES:
Oregon

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Emergency & Remedial Response
Office of Program Management
Washington, D.C. 20460

If you wish to purchase copies of any additional State volumes or the National Overview volume, ***Superfund: Focusing on the Nation at Large***, contact:

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INTRODUCTION:

A BRIEF OVERVIEW

WHY THE SUPERFUND PROGRAM?

As the 1970s came to a close, a series of headline stories gave Americans a look at the dangers of dumping industrial and urban wastes on the land. First there was New York 's Love Canal. Hazardous waste buried there over a 25-year period contaminated streams and soil, and endangered the health of nearby residents. The result: evacuation of several hundred people. Then the leaking barrels at the Valley of the Drums in Kentucky attracted public attention, as did the dioxin tainted land and water in Times Beach, Missouri.

In all these cases, human health and the environment were threatened, lives were disrupted, property values depreciated. It became increasingly clear that there were large numbers of serious hazardous waste problems that were falling through the cracks of existing environmental laws. The magnitude of these emerging problems moved Congress to enact the Comprehensive Environmental Response, Compensation, and Liability Act in 1980. CERCLA — commonly known as the Superfund — was the first Federal law established to deal with the dangers posed by the Nation's hazardous waste sites.

After Discovery, the Problem Intensified

Few realized the size of the problem until EPA began the process of site discovery and site evaluation. Not hundreds, but thousands of potential hazardous waste sites existed, and they presented the Nation with some of the most complex pollution problems it had ever faced.

In the 10 years since the Superfund program began, hazardous waste has surfaced as a major environmental concern in every part of the United States. It wasn't just the land that was contaminated by past disposal practices. Chemicals in the soil were spreading into the groundwater (a source of drinking water for many) and into streams, lakes, bays, and wetlands. Toxic vapors contaminated the air at some sites, while at others improperly disposed or stored wastes threatened the health of the surrounding community and the environment.

EPA Identified More than 1,200 Serious Sites

EPA has identified 1,236 hazardous waste sites as the most serious in the Nation. These sites comprise the "National Priorities List": sites targeted for cleanup under the Superfund. But site discoveries continue, and EPA estimates that, while some will be deleted after lengthy cleanups, this list, commonly called the NPL, will continue to grow by approximately 100 sites per year, reaching 2,100 sites by the year 2000.

THE NATIONAL CLEANUP EFFORT IS MUCH MORE THAN THE NPL

From the beginning of the program, Congress recognized that the Federal government could not and should not address all environmental problems stemming from past disposal practices. Therefore, the EPA was directed to set priorities and establish a list of sites to target. Sites on the NPL (1,236) are thus a rela-

tively small subset of a larger inventory of potential hazardous waste sites, but they do comprise the most complex and environmentally compelling cases. EPA has logged more than 32,000 sites on its National hazardous waste inventory, and assesses each site within one year of being logged. In fact, over 90 percent of the sites on the inventory have been assessed. Of the assessed sites, 55 percent have been found to require no further Federal action because they did not pose significant human health or environmental risks. The remaining sites are undergoing further assessment to determine if long-term Federal cleanup activities are appropriate.

EPA IS MAKING PROGRESS ON SITE CLEANUP

The goal of the Superfund program is to tackle immediate dangers first, and then move through the progressive steps necessary to eliminate any long-term risks to public health and the environment.

The Superfund responds immediately to sites posing imminent threats to human health and the environment at both NPL sites and sites not on the NPL. The purpose is to stabilize, prevent, or temper the effects of a hazardous release, or the threat of one. These might include tire fires or transportation accidents involving the spill of hazardous chemicals. Because they reduce the threat a site poses to human health and the environment, immediate cleanup actions are an integral part of the Superfund program.

Immediate response to imminent threats is one of the Superfund 's most noted achievements. Where imminent threats to the public or environment were evident, EPA has completed or monitored emergency actions that attacked the most serious threats to toxic exposure in more than 1,800 cases.

The ultimate goal for a hazardous waste site on the NPL is a permanent solution to an environmental problem that presents a serious (but not an imminent) threat to the public or environment. This often requires a long-term effort. In the last four years, EPA has aggressively accelerated its efforts to perform these long-term cleanups of NPL sites. More cleanups were started in 1987, when the Superfund law was amended, than in any previous year. And in 1989 more sites than ever reached the construction stage of the Superfund cleanup process. Indeed construction starts increased by over 200 percent between late 1986 and 1989! Of the sites currently on the NPL, more than 500 — nearly half — have had construction cleanup activity. In addition, over 500 more sites are presently in the investigation stage to determine the extent of site contamination, and to identify appropriate cleanup remedies. Many other sites with cleanup remedies selected are poised for the start of cleanup construction activity. Measuring success by "progress through the cleanup pipeline," EPA is clearly gaining momentum.

EPA MAKES SURE CLEANUP WORKS

EPA has gained enough experience in cleanup construction to understand that environmental protection does not end when the remedy is in place. Many complex technologies — like those designed to clean up groundwater — must operate for many years in order to accomplish their objectives.

EPA 's hazardous waste site managers are committed to proper operation and maintenance of every remedy constructed. No matter who has been delegated responsibility for monitoring the cleanup work, the EPA will assure that the remedy is carefully followed and that it continues to do its job.

Likewise, EPA does not abandon a site even after the cleanup work is done. Every

five years the Agency reviews each site where residues from hazardous waste cleanup still remain to ensure that public and environmental health are still being safeguarded. EPA will correct any deficiencies discovered and report to the public annually on all five-year reviews conducted that year.

CITIZENS HELP SHAPE DECISIONS

Superfund activities also depend upon local citizen participation. EPA's job is to analyze the hazards and deploy the experts, but the Agency needs citizen input as it makes choices for affected communities.

Because the people in a community with a Superfund site will be those most directly affected by hazardous waste problems and cleanup processes, EPA encourages citizens to get involved in cleanup decisions. Public involvement and comment does influence EPA cleanup plans by providing valuable information about site conditions, community concerns and preferences.

This State volume and the companion National Overview volume provide general Superfund background information and descriptions of activities at each State NPL site. These volumes are intended to clearly describe what the problems are, what EPA and others participating in site cleanups are doing, and how we as a Nation can move ahead in solving these serious problems.

USING THE STATE AND NATIONAL VOLUMES IN TANDEM

To understand the big picture on hazardous waste cleanup, citizens need to hear about both environmental progress across the country and the cleanup accomplishments closer to home. The public should understand the challenges involved in hazardous waste cleanup and the decisions we must make — as a Nation — in finding the best solutions.

The National Overview volume — ***Superfund: Focusing on the Nation at Large*** — accompanies this State volume. The National Overview contains important information to help you understand the magnitude and challenges facing the Superfund program as well as an overview of the National cleanup effort. The sections describe the nature of the hazardous waste problem nationwide, threats and contaminants at NPL sites and their potential effects on human health and the environment, the Superfund program's successes in cleaning up the Nation's serious hazardous waste sites, and the vital roles of the various participants in the cleanup process.

This State volume compiles site summary fact sheets on each State site being cleaned up under the Superfund program. These sites represent the most serious hazardous waste problems in the Nation, and require the most complicated and costly site solutions yet encountered. Each State book gives a "snapshot" of the conditions and cleanup progress that has been made at each NPL site in the State through the first half of 1990. Conditions change as our cleanup efforts continue, so these site summaries will be updated periodically to include new information on progress being made.

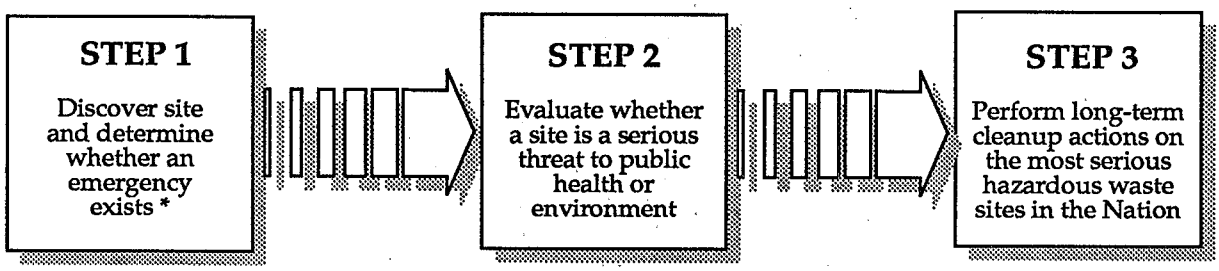
To help you understand the cleanup accomplishments made at these sites, this State volume includes a description of the process for site discovery, threat evaluation and long-term cleanup of Superfund sites. This description — ***How Does the Program Work to Clean Up Sites?*** — will serve as a good reference point from which to review the cleanup status at specific sites. A glossary also is included at the back of the book that defines key terms used in the site fact sheets as they apply to hazardous waste management.

SUPERFUND:

How Does the Program Work to Clean Up Sites?

The diverse problems posed by the Nation's hazardous waste sites have provided EPA with the challenge to establish a consistent approach for evaluating and cleaning up the Nation's most serious sites. To do this, EPA had to step beyond its traditional role as a regulatory agency to develop processes and guidelines for each step in these technically complex site cleanups. EPA has established procedures to coordinate the efforts of its Washington, D.C. Headquarters program offices and its front-line staff in 10 Regional Offices with the State governments, contractors, and private parties who are participating in site cleanup. An important part of the process is that any time during cleanup, work can be led by EPA or the State or, under their monitoring, by private parties who are potentially responsible for site contamination.

The process for discovery of the site, evaluation of threat, and long-term cleanup of Superfund sites is summarized in the following pages. The phases of each of these steps are highlighted within the description. The flow diagram below provides a summary of this three step process.



** Emergency actions are performed whenever needed in this three-step process*

FIGURE 1

Although this State book provides a current "snapshot" of site progress made only by emergency actions and long-term cleanup actions at Superfund sites, it is important to understand the discovery and evaluation process that leads up to identifying and cleaning up these most serious uncontrolled or abandoned hazardous waste sites in the Nation. This discovery and evaluation process is the starting point for this summary description.

STEP 1: SITE DISCOVERY AND EMERGENCY EVALUATION

How does EPA learn about potential hazardous waste sites?

Site discovery occurs in a number of ways. Information comes from concerned citizens — people may notice an odd taste or foul odor in their drinking water, or see half-buried leaking barrels; a hunter may come across a field where waste was dumped illegally. Or there may be an explosion or fire which alerts the State or local authorities to a problem. Routine investigations by State and local governments, and required reporting and inspection of facilities that generate, treat, store, or dispose of hazardous waste also help keep EPA informed about either actual or potential threats of hazardous substance releases. All reported sites or spills are recorded in the Superfund inventory (CERCLIS) for further investigation to determine whether they will require cleanup.

What happens if there is an imminent danger?

As soon as a potential hazardous waste site is reported, EPA determines whether there is an emergency requiring an immediate cleanup action. If there is, they act as quickly as possible to remove or stabilize the imminent threat. These short-term **emergency actions** range from building a fence around the contaminated area to keep people away or temporarily relocating residents until the danger is addressed, to providing bottled water to residents while their local drinking water supply is being cleaned up, or physically removing wastes for safe disposal.

However, emergency actions can happen at any time an imminent threat or emergency warrants them — for example, if leaking barrels are found when cleanup crews start digging in the ground or if samples of contaminated soils or air show that there may be a threat of fire or explosion, an immediate action is taken.

STEP 2: SITE THREAT EVALUATION

If there isn't an imminent danger, how does EPA determine what, if any, cleanup actions should be taken?

Even after any imminent dangers are taken care of, in most cases contamination may remain at the site. For example, residents may have been supplied with bottled water to take care of their immediate problem of contaminated well water. But now it's time to figure out what is contaminating the drinking water supply and the best way to clean it up. Or

EPA may determine that there is no imminent danger from a site, so now any long-term threats need to be evaluated. In either case, a more comprehensive investigation is needed to determine if a site poses a serious but not imminent danger, and requires a long-term cleanup action.

Once a site is discovered and any needed emergency actions are taken, EPA or the State collects all available background information not only from their own files, but also from local records and U.S. Geological Survey maps. This information is used to identify the site and to perform a **preliminary assessment** of its potential hazards. This is a quick review of readily available information to answer the questions:

- Are hazardous substances likely to be present?
- How are they contained?
- How might contaminants spread?
- How close is the nearest well, home, or natural resource area like a wetland or animal sanctuary?
- What may be harmed — the land, water, air, people, plants, or animals?

Some sites do not require further action because the preliminary assessment shows that they don't threaten public health or the environment. But even in these cases, the sites remain listed in the Superfund inventory for record keeping purposes and future reference. Currently, there are more than 32,000 sites maintained in this inventory.

If the preliminary assessment shows that a serious threat *may* exist, what's the next step?

Inspectors go to the site to collect additional information to evaluate its hazard potential. During this **site inspection**, they look for evidence of hazardous waste, such as leaking drums and dead or discolored vegetation. They may take some samples of soil, well water, river water, and air. Inspectors analyze the ways hazardous materials could be polluting the environment — such as runoff into nearby streams. They also check to see if people (especially children) have access to the site.

How does EPA use the results of the site inspection?

Information collected during the site inspection is used to identify the sites posing the most serious threats to human health and the environment. This way EPA can meet the

requirement that Congress gave them to use Superfund monies only on the worst hazardous waste sites in the Nation.

To identify the most serious sites, EPA developed the Hazard Ranking System (HRS). The HRS is the scoring system EPA uses to assess the relative threat from a release or a potential release of hazardous substances from a site to surrounding groundwater, surface water, air, and soil. A site score is based on the likelihood a hazardous substance will be released from the site, the toxicity and amount of hazardous substances at the site, and the people and sensitive environments potentially affected by contamination at the site.

Only sites with high enough health and environmental risk scores are proposed to be added to EPA's **National Priorities List (NPL)**. That's why there are 1,236 sites are on the NPL, but there are more than 32,000 sites in the Superfund inventory. Only NPL sites can have a long-term cleanup paid for from the national hazardous waste trust fund — the Superfund. But the Superfund can and does pay for emergency actions performed at any site, whether *or not it's on the NPL.*

How do people find out whether EPA considers a site a national priority for cleanup using Superfund money?

The public can find out whether a site that concerns them is on the NPL by calling their Regional EPA office at the number listed in this book.

The proposed NPL identifies sites that have been evaluated through the scoring process as the most serious problems among uncontrolled or abandoned hazardous waste sites in the U.S. In addition, a site will be added to the NPL if the Agency for Toxic Substances and Disease Registry issues a health advisory recommending that people be moved away from the site. Updated at least once a year, it's only after public comments are considered that these proposed worst sites are officially added to the NPL.

Listing on the NPL does not set the order in which sites will be cleaned up. The order is influenced by the relative priority of the site's health and environmental threats compared to other sites, and such factors as State priorities, engineering capabilities, and available technologies. Many States also have their own list of sites that require cleanup; these often contain sites not on the NPL that are scheduled to be cleaned up with State money. And it should be said again that any emergency action needed at a site can be performed by the Superfund whether or not a site is on the NPL.

STEP 3: LONG-TERM CLEANUP ACTIONS

After a site is added to the NPL, what are the steps to cleanup?

The ultimate goal for a hazardous waste site on the NPL is a permanent, long-term cleanup. Since every site presents a unique set of challenges, there is no single all-purpose solution. So a five-phase "remedial response" process is used to develop consistent and workable solutions to hazardous waste problems across the Nation:

1. Investigate in detail the extent of the site contamination: **remedial investigation,**
2. Study the range of possible cleanup remedies: **feasibility study,**
3. Decide which remedy to use: **Record of Decision or ROD,**
4. Plan the remedy: **remedial design,** and
5. Carry out the remedy: **remedial action.**

This remedial response process is a long-term effort to provide a permanent solution to an environmental problem that presents a serious, but not an imminent threat to the public or environment.

The first two phases of a long-term cleanup are a combined **remedial investigation and feasibility study** (RI/FS) that determine the nature and extent of contamination at the site, and identify and evaluate cleanup alternatives. These studies may be conducted by EPA or the State or, under their monitoring, by private parties.

Like the initial site inspection described earlier, a remedial investigation involves an examination of site data in order to better define the problem. But the remedial investigation is much more detailed and comprehensive than the initial site inspection.

A remedial investigation can best be described as a carefully designed field study. It includes extensive sampling and laboratory analyses to generate more precise data on the types and quantities of wastes present at the site, the type of soil and water drainage patterns, and specific human health and environmental risks. The result is information that allows EPA to select the cleanup strategy that is best suited to a particular site or to determine that no cleanup is needed.

Placing a site on the NPL does not necessarily mean that cleanup is needed. It is possible for a site to receive an HRS score high enough to be added to the NPL, but not ultimately require cleanup actions. Keep in mind that the purpose of the scoring process is to provide a preliminary and conservative assessment of *potential* risk. During subsequent site investigations, the EPA may find either that there is no real threat or that the site does not pose significant human health or environmental risks.

How are cleanup alternatives identified and evaluated?

EPA or the State or, under their monitoring, private parties identify and analyze specific site cleanup needs based on the extensive information collected during the remedial investigation. This analysis of cleanup alternatives is called a **feasibility study.**

Since cleanup actions must be tailored exactly to the needs of each individual site, more than one possible cleanup alternative is always considered. After making sure that all potential cleanup remedies fully protect human health and the environment and comply with Federal and State laws, the advantages and disadvantages of each cleanup alternative are carefully compared. These comparisons are made to determine their effectiveness in the short- and long-term, their use of permanent treatment solutions, and their technical feasibility and cost.

To the maximum extent practicable, the remedy must be a permanent solution and use treatment technologies to destroy principal site contaminants. But remedies such as containing the waste on site or removing the source of the problem (like leaking barrels) are often considered effective. Often special pilot studies are conducted to determine the effectiveness and feasibility of using a particular technology to clean up a site. Therefore, the combined remedial investigation and feasibility study can take between 10 and 30 months to complete, depending on the size and complexity of the problem.

Does the public have a say in the final cleanup decision?

Yes. The Superfund law requires that the public be given the opportunity to comment on the proposed cleanup plan. Their concerns are carefully considered before a final decision is made.

The results of the remedial investigation and feasibility study, which also point out the recommended cleanup choice, are published in a report for public review and comment. EPA or the State encourages the public to review the information and take an active role in the final cleanup decision. Fact sheets and announcements in local papers let the community know where they can get copies of the study and other reference documents concerning the site.

The public has a minimum of 30 days to comment on the proposed cleanup plan after it is published. These comments can either be written or given verbally at public meetings that EPA or the State are required to hold. Neither EPA nor the State can select the final cleanup remedy without evaluating and providing written answers to specific community comments and concerns. This "responsiveness summary" is part of EPA's write-up of the final remedy decision, called the Record of Decision or ROD.

The ROD is a public document that explains the cleanup remedy chosen and the reason it was selected. Since sites frequently are large and must be cleaned up in stages, a ROD may be necessary for each contaminated resource or area of the site. This may be necessary when contaminants have spread into the soil, water and air, and affect such sensitive areas as wetlands, or when the site is large and cleaned up in stages. This often means that a number of remedies using different cleanup technologies are needed to clean up a single site.

If every cleanup action needs to be tailored to a site, does the design of the remedy need to be tailored too?

Yes. Before a specific cleanup action is carried out, it must be designed in detail to meet specific site needs. This stage of the cleanup is called the **remedial design**. The design phase provides the details on how the selected remedy will be engineered and constructed.

Projects to clean up a hazardous waste site may appear to be like any other major construction project but, in fact, the likely presence of combinations of dangerous chemicals demands special construction planning and procedures. Therefore, the design of the remedy can take anywhere from 6 months to 2 years to complete. This blueprint for site cleanup includes not only the details on every aspect of the construction work, but a description of the types of hazardous wastes expected at the

site, special plans for environmental protection, worker safety, regulatory compliance, and equipment decontamination.

Once the design is complete, how long does it take to actually clean up the site and how much does it cost?

The time and cost for performing the site cleanup — called the **remedial action** — are as varied as the remedies themselves. In a few cases, the only action needed may be to remove drums of hazardous waste and decontaminate them — an action that takes limited time and money. In most cases, however, a remedial action may involve different and expensive measures that can take a long time.

For example, cleaning polluted groundwater or dredging contaminated river bottoms can take several years of complex engineering work before contamination is reduced to safe levels. Sometimes the selected cleanup remedy described in the ROD may need to be modified because of new contaminant information discovered or difficulties that were faced during the early cleanup activities. Taking into account these differences, a remedial cleanup action takes an average of 18 months to complete and costs an average of $26 million per site.

Once the cleanup action is complete, is the site automatically "deleted" from the NPL?

No. The deletion of a site from the NPL is anything but automatic. For example, cleanup of contaminated groundwater may take up to 20 years or longer. Also, in some cases the **long-term monitoring** of the remedy is required to ensure that it is effective. After construction of certain remedies, operation and maintenance (e.g., maintenance of ground cover, groundwater monitoring, etc.) or continued pumping and treating of groundwater, may be required to ensure that the remedy continues to prevent future health hazards or environmental damage, and ultimately meets the cleanup goals specified in the ROD. Sites in this final monitoring or operational stage of the cleanup process are designated as "construction completed".

It's not until a site cleanup meets all the goals and monitoring requirements of the selected remedy that EPA can officially propose the site for "**deletion**" from the NPL. And it's not until public comments are taken into consideration that a site can actually be deleted from the NPL. Deletions that have occurred are included in the "Construction Complete" category in the progress report found later in this book.

Can EPA make parties responsible for the contamination pay?

Yes. Based on the belief that "the polluters should pay," after a site is placed on the NPL, the EPA makes a thorough effort to identify and find those responsible for causing contamination problems at a site. Although EPA is willing to negotiate with these private parties and encourages voluntary cleanup, it has the authority under the Superfund law to legally force those potentially responsible for site hazards to take specific cleanup actions. All work performed by these parties is closely guided and monitored by EPA, and must meet the same standards required for actions financed through the Superfund.

Because these enforcement actions can be lengthy, EPA may decide to use Superfund monies to make sure a site is cleaned up without unnecessary delay. For example, if a site presents an imminent threat to public health and the environment, or if conditions at a site may worsen, it could be necessary to start the cleanup right away. Those responsible for causing site contamination are liable under the law for repaying the money EPA spends in cleaning up the site.

Whenever possible, EPA and the Department of Justice use their legal enforcement authorities to require responsible parties to pay for site cleanups, thereby preserving the Superfund for emergency actions and sites where no responsible parties can be identified.

HOW TO:

USING THE STATE VOLUME

The Site Fact Sheets presented in this book are comprehensive summaries that cover a broad range of information. The fact sheets describe hazardous waste sites on the National Priorities List (NPL) and their locations, as well as the conditions leading to their listing ("Site Description"). They list the types of contaminants that have been discovered and related threats to public and ecological health ("Threats and Contaminants"). "Cleanup Approach" presents an overview of the cleanup activities completed, underway, or planned. The fact sheets conclude with a brief synopsis of how much progress has been made on protecting public health and the environment. The summaries also pinpoint other actions, such as legal efforts to involve polluters responsible for site contamination and community concerns.

The following two pages show a generic fact sheet and briefly describes the information under each section. The square "icons" or symbols accompanying the text allow the reader to see at a glance which environmental resources are affected and the status of cleanup activities.

Icons in the *Threats and Contaminants* Section

Contaminated **Groundwater** resources in the vicinity or underlying the site. (Groundwater is often used as a drinking water source.)

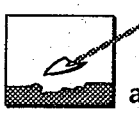
Contaminated **Surface Water and Sediments** on or near the site. (These include lakes, ponds, streams, and rivers.)

Contaminated **Air** in the vicinity of the site. (Pollution is usually periodic and involves contaminated dust particles or hazardous gas emissions.)

Contaminated **Soil and Sludges** on or near the site.

Threatened or contaminated **Environmentally Sensitive Areas** in the vicinity of the site. (Examples include wetlands and coastal areas, critical habitats.)

Icons in the *Response Action Status* Section



Initial Actions have been taken or are underway to eliminate immediate threats at the site.

Site Studies at the site are planned or underway.

Remedy Selected indicates that site investigations have been concluded and EPA has selected a final cleanup remedy for the site or part of the site.

Remedy Design means that engineers are preparing specifications and drawings for the selected cleanup technologies.

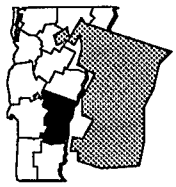
Cleanup Ongoing indicates that the selected cleanup remedies for the contaminated site — or part of the site — are currently underway.

Cleanup Complete shows that all cleanup goals have been achieved for the contaminated site or part of the site.

Site Responsibility

Identifies the Federal, State, and/or potentially responsible parties that are taking responsibility for cleanup actions at the site.

SITE NAME
STATE
EPA ID# ABC00000000



EPA REGION
CONGRESSIONAL DIST
County Name
Location

Aliases:

Site Description

Site Responsibility:

NPL LISTING HISTORY

NPL Listing History

Dates when the site was Proposed, made Final, and Deleted from the NPL

Threats and Contaminants

Cleanup Approach

Response Action Status

Site Facts:

Environmental Progress

Environmental Progress

A summary of the actions to reduce the threats to nearby residents and the surrounding environment; progress towards cleaning up the site and goals of the cleanup plan are given here.

WHAT THE FACT SHEETS CONTAIN

Site Description

This section describes the location and history of the site. It includes descriptions of the most recent activities and past actions at the site that have contributed to the contamination. Population estimates, land usages, and nearby resources give readers background on the local setting surrounding the site. Throughout the site description and other sections of the site summary, technical or unfamiliar terms that are *italicized* are presented in the glossary at the end of the book. Please refer to the glossary for more detailed explanation or definition of the terms.

Threats and Contaminants

The major chemical categories of site contamination are noted as well as which environmental resources are affected. Icons representing each of the affected resources (may include air, groundwater, surface water, soil and contamination to environmentally sensitive areas) are included in the margins of this section. Potential threats to residents and the surrounding environments arising from the site contamination are also described. Specific contaminants and contaminant groupings are italicized and explained in more detail in the glossary.

Cleanup Approach

This section contains a brief overview of how the site is being cleaned up.

Response Action Status

Specific actions that have been accomplished or will be undertaken to clean up the site are described here. Cleanup activities at NPL sites are divided into separate phases depending on the complexity and required actions at the site. Two major types of cleanup activities are often described: initial, immediate or emergency actions to quickly remove or reduce imminent threats to the community and surrounding areas; and long-term remedial phases directed at final cleanup at the site. Each stage of the cleanup strategy is presented in this section of the summary. Icons representing the stage of the cleanup process (initial actions, site investigations, EPA selection of the cleanup remedy, engineering design phase, cleanup activities underway and completed cleanup) are located in the margin next to each activity description.

Site Facts

Additional information on activities and events at the site are included in this section. Often details on legal or administrative actions taken by EPA to achieve site cleanup or other facts pertaining to community involvement with the site cleanup process are reported here.

How To

The fact sheets are arranged in alphabetical order by site name. Because site cleanup is a dynamic and gradual process, all site information is accurate as of the date shown on the bottom of each page. Progress is always being made at NPL sites, and EPA will periodically update the Site Fact Sheets to reflect recent actions and publish updated State volumes.

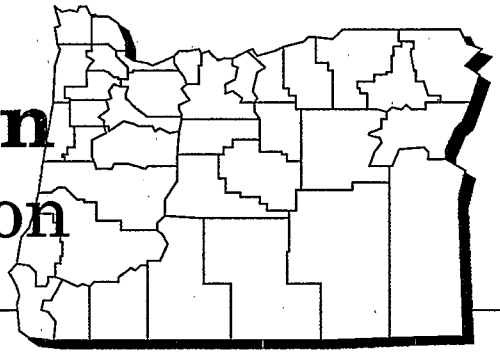
HOW CAN *YOU* USE THIS STATE BOOK?

You can use this book to keep informed about the sites that concern you, particularly ones close to home. EPA is committed to involving the public in the decisionmaking process associated with hazardous waste cleanup. The Agency solicits input from area residents in communities affected by Superfund sites. Citizens are likely to be affected not only by hazardous site conditions, but also by the remedies that combat them. Site cleanups take many forms and can affect communities in different ways. Local traffic may be rerouted, residents may be relocated, temporary water supplies may be necessary.

Definitive information on a site can help citizens sift through alternatives and make decisions. To make good choices, you must know what the threats are and how EPA intends to clean up the site. You must understand the cleanup alternatives being proposed for site cleanup and how residents may be affected by each one. You also need to have some idea of how your community intends to use the site in the future and to know what the community can realistically expect once the cleanup is complete.

EPA wants to develop cleanup methods that meet community needs, but the Agency can only take local concerns into account if it understands what they are. Information must travel both ways in order for cleanups to be effective and satisfactory. Please take this opportunity to learn more, become involved, and assure that hazardous waste cleanup at "your" site considers your community's concerns.

NPL Sites in State of Oregon



This Pacific Northwest State of Oregon is bordered by Washington to the north, the Pacific Ocean to the west, Idaho to the east, and Nevada and California to the south. The State covers 97,073 square miles consisting of rugged coastal range mountains which give way to the fertile Willamette River Valley, the Cascade Mountains and plateau, to the east of the mountains. Oregon experienced a 5.1 percent increase in population during the 1980s, and currently has approximately 2,767,000 residents, ranking 30th in U.S. populations. Principal State industries include manufacturing, agriculture, forestry, tourism, high technology and commercial fishing. Oregon-manufactured products include foods, lumber and wood products, printing and publishing, primary metals and fabricated metal products, and machinery.

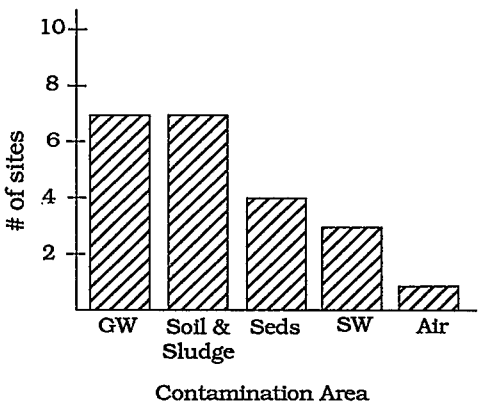
How Many Oregon Sites Are on the NPL?

Proposed Sites	1
Final Sites	7
Deleted Sites	0
	8

Where Are the NPL Sites Located?

Cong. District 01	1 site
Cong. District 02	4 sites
Cong. District 03	1 site
Cong. District 05	2 sites

How are Sites Contaminated and What are the Principal* Chemicals ?



Groundwater: Heavy metals (inorganics), volatile organic compounds (VOCs), creosotes (organics), radiation, and other inorganics.

Soil and Sludge: Heavy metals (inorganics), creosotes (organics), other inorganics, and volatile organic compounds (VOCs).

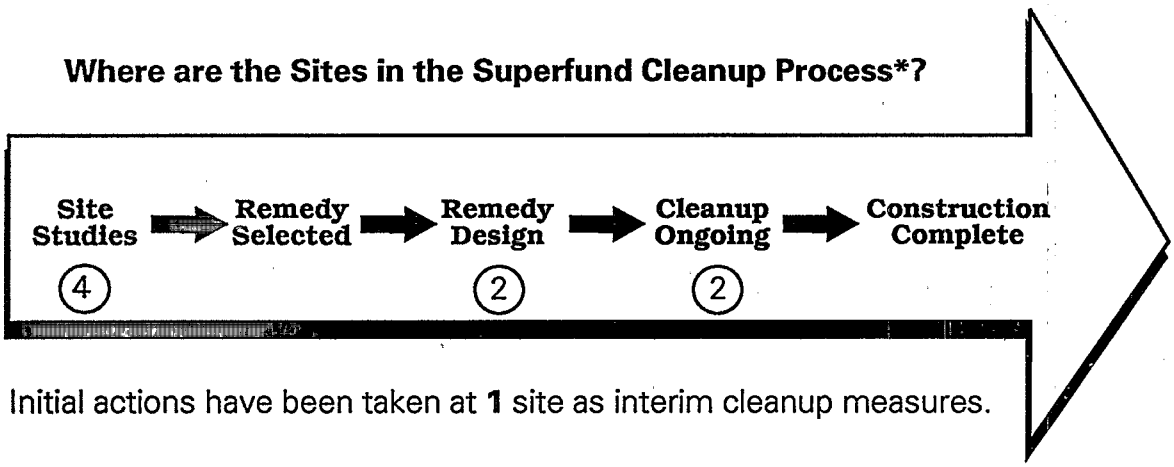
Surface Water and Sediments: Heavy metals (inorganics) and creosotes (organics).

Air: Heavy metals (inorganics).

*Appear at 14% or more sites

continued

Where are the Sites in the Superfund Cleanup Process*?



Initial actions have been taken at **1** site as interim cleanup measures.

Who Do I Call with Questions?

The following pages describe each NPL site in Oregon, providing specific information on threats and contaminants, cleanup activities, and environmental progress. Should you have questions, please call one of the offices listed below:

Oregon Superfund Office	(503) 229-5356
EPA Region X Superfund Office	(206) 399-1987
EPA Region X Public Relations Office	(206) 442-1283
EPA Superfund Hotline	(800) 424-9346
EPA Public Information Office	(202) 477-7751

*Cleanup status reflects phase of site activities rather than administrative accomplishments.

The NPL Progress Report

The following Progress Report lists the State sites currently on or deleted from the NPL, and briefly summarizes the status of activities for each site at the time this report was prepared. The steps in the Superfund cleanup process are arrayed across the top of the chart, and each site's progress through these steps is represented by an arrow (➨) which indicates the current stage of cleanup at the site.

Large and complex sites are often organized into several cleanup stages. For example, separate cleanup efforts may be required to address the source of the contamination, hazardous substances in the groundwater, and surface water pollution, or to clean up different areas of a large site. In such cases, the chart portrays cleanup progress at the site's *most advanced stage,* reflecting the status of site activities rather than administrative accomplishments.

- ➨ An arrow in the "Initial Response" category indicates that an emergency cleanup or initial action has been completed or is currently underway. Emergency or initial actions are taken as an interim measure to provide immediete relief from exposure to hazardous site conditions or to stabilize a site to prevent further contamination.
- ➨ An arrow in the "Site Studies" category indicates that an investigation to determine the nature and extent of the contamination at the site is currently ongoing or planned to begin in 1991.
- ➨ An arrow in the "Remedy Selection" category means that the EPA has selected the final cleanup strategy for the site. At the few sites where the EPA has determined that initial response actions have eliminated site contamination, or that any remaining contamination will be naturally dispersed without further cleanup activities, a "No Action" remedy is selected. In these cases, the arrows in the Progress Report are discontinued at the "Remedy Selection" step and resume in the final "Construction Complete" category.
- ➨ An arrow at the "Remedial Design" stage indicates that engineers are currently designing the technical specifications for the selected cleanup remedies and technologies.
- ➨ An arrow marking the "Cleanup Ongoing" category means that final cleanup actions have been started at the site and are currently underway.
- ➨ A arrow in the "Construction Complete" category is used *only* when *all phases* of the site cleanup plan have been performed and the EPA has determined that no additional construction actions are required at the site. Some sites in this category may currently be undergoing long-term pumping and treating of groundwater, operation and maintenance or monitoring to ensure that the completed cleanup actions continue to protect human health and the environment.

The sites are listed in alphabetical order. Further information on the activities and progress at each site is given in the site "Fact Sheets" published in this volume.

Progress Toward Cleanup at NPL Sites in the State of Oregon

Page	Site Name	County	NPL	Date	Initial Response	Site Studies	Remedy Selected	Remedy Design	Cleanup Ongoing	Construction Complete
1	ALLIED PLATING, INC.	MULTNOMAH	Final	02/21/90		➡				
3	GOULD, INC.	MULTNOMAH	Final	09/08/83		➡	➡	➡		
5	JOSEPH FOREST PRODUCTS	WALLOWA	Final	03/31/89		➡				
7	MARTIN-MARIETTA ALUMINUM CO.	WASCO	Final	06/10/86		➡	➡	➡	➡	
9	TELEDYNE WAH CHANG	LINN	Final	09/08/83		➡	➡	➡		
11	UMATILLA ARMY DEPOT (LAGOONS)	UMATILLA	Final	07/22/87		➡				
13	UNION PACIFIC RR CO. TIE-TREATING	WASCO	Prop.	10/26/89		➡				
15	UNITED CHROME PRODUCTS, INC.	BENTON	Final	09/21/84	➡	➡	➡	➡	➡	

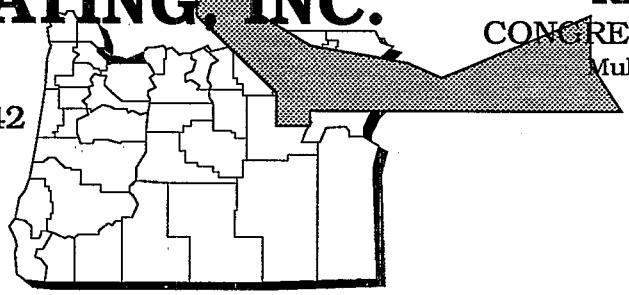
NPL:

Site Fact Sheets

ALLIED PLATING, INC.

OREGON

EPA ID# ORD009051442



REGION 10

CONGRESSIONAL DIST. 03

Multnomah County

Portland

Site Description

Allied Plating, Inc., occupying 1 1/2 acres, began operating a chrome-plating facility in Portland in 1957. The operation generated electroplating wastes that contained heavy metals and arsenic. For over 25 years, the company discharged waste without pre-treatment. Prior to 1969, wastes were discharged onto a low-lying area of the property which drained into the Columbia Slough. After 1969, filling activities isolated the site and created a surface *impoundment*. In mid-1985, during an EPA inspection, the banks of the pond were found to be eroding, and the natural drainage channels were filled with refuse. Shortly thereafter, the owner pumped the contents of the pond into the Portland sewer system. In 1978, the company detected metals in an on-site well and in industrial and municipal wells within 2 miles of the site. Approximately 20,000 people live within 3 miles of the site. Public and private wells within 3 miles of the site provide drinking water for about 1,500 people. Water from a well located 1,700 feet from the site is used in food processing. Groundwater is also used for irrigation. An apartment building and mobile home park are located nearby, but they use city water. The Columbia Slough, which drains into the Willamette River, is about 600 feet northeast of the site.

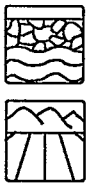
Site Responsibility: The site is being addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 01/22/87

Final Date: 02/21/90

Threats and Contaminants



Both groundwater and soil are contaminated with heavy metals, including chromium and lead. Soil also contains cyanide. Chromium, copper, and nickel are present in *sludge* on the site. Contaminated groundwater, soil, and sludge could be a potential hazard to individuals through direct contact or accidental ingestion. Drainage from the site has the potential for contaminating the Columbia Slough.

Cleanup Approach

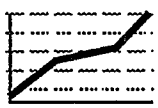
The site is being addressed in a single *long-term remedial phase* focusing on the entire site.

Response Action Status

Entire Site: The EPA began an investigation of the site in 1987 to determine the nature and the extent of the contamination. The results of the study, scheduled for 1991, will be used to evaluate different alternatives for final cleanup.

Site Facts: Allied Plating, Inc. received Interim Status under the Resource Conservation and Recovery Act (RCRA) when it filed a permit application for a surface impoundment. In 1982, the company filed for bankruptcy.

Environmental Progress

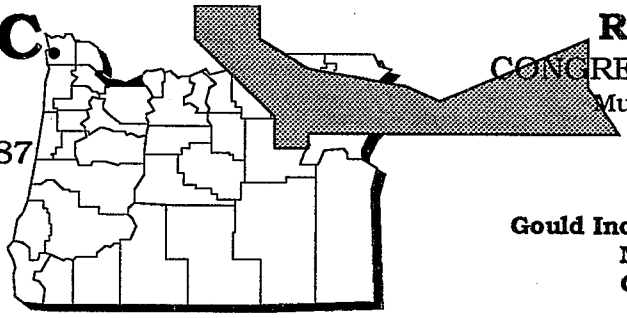


After adding Allied Plating, Inc. to the NPL, the EPA conducted an initial evaluation and determined that no immediate actions were needed while an investigation leading to the selection of final cleanup remedies is under way.

GOULD, INC.

OREGON

EPA ID# ORD095003687



REGION 10

CONGRESSIONAL DIST. 01

Multnomah County

Portland

Aliases:
Gould Inc Metals Div - Portland
N L Industries
GNB Batteries

Site Description

The Gould, Inc. site covers about 10 acres in an industrial area in northwestern Portland known as the Doane Lake area. From 1949 until 1981, various site owners operated a secondary lead smelting facility specializing in lead-*acid* battery recycling, lead-smelting and refining, zinc alloying and casting, cable sweating, and lead oxide production. During the facility operations, recycled batteries were disassembled, fragmented, and disposed of in adjacent Doane Lake or next to the recycling facility. About 87,000 tons of battery casings were disposed of at the site, and about 6 million gallons of acid were discharged into the lake. Operations ceased in 1981 and by mid-1982, most of the structures, facilities, and equipment were removed. However, surface piles of approximately 2,000 tons of battery casings remain on the site. A few private residences and rental units are located to the south and west of the facility. Approximately 270 people are employed by the businesses in the vicinity and on the site. About 10,000 people live within 1 mile of the site. The facility is located in the floodplain of the Willamette River.

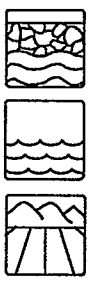
Site Responsibility: The site is being addressed through a combination of Federal, State, and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants



Lead and *volatile organic compounds* (VOCs) have been detected in on-site groundwater. Lead, chromium, and arsenic are present in the *sediments* of Doane Lake. Soil contains arsenic, lead, and cadmium. Potential health risks may exist for individuals who ingest contaminated soil, sediments, or surface and groundwater. Access to the site is restricted, thereby reducing the potential for people to come into direct contact with contamination.

Cleanup Approach

The site is being addressed in two *long-term remedial phases* focusing on cleanup of soils and sediments, and groundwater and surface water.

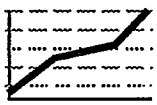
Response Action Status

Soils and Sediments: The selected remedy for the soils and sediments at the site include: (1) excavation of all battery casing fragments and matte from the site; (2) a phased design program to determine the amount of material that can be recycled to minimize the amount of material that must be landfilled; (3) separation of battery casing fragments and recycling of all applicable components; (4) off-site disposal of non-recyclable material; (5) on-site disposal of nonhazardous, non-recyclable components; (6) excavation, fixation, *stabilization*, and on-site disposal of remaining contaminated soil, sediments, and matte, followed by *capping* with soil and revegetation; (7) isolation of surface water *runoff* to East Doane Lake by site regrading; and (8) a monitoring program to determine changes in groundwater contamination and to ensure that the remedial actions do not adversely affect air quality. In 1989, NL Industries, under EPA oversight, began treatability studies of the proposed cleanup technologies. NL Industries is scheduled to submit a report in August 1990. The bench and pilot scale testing have been completed and field demonstration testing is under way. Actual cleanup work is scheduled to begin in 1991.

Groundwater and Surface Water: As part of the completion of the first phase, the Doane Lake Industrial Group, under State supervision, will conduct *hydrogeological* studies to determine if additional groundwater and surface water cleanup activities are needed. Based on this preliminary study, a complete investigation to determine the full extent of contamination and to study alternative cleanup technologies may be performed.

Site Facts: In April 1989, a *Consent Decree* between a potentially responsible party, NL Industries, and the EPA was lodged with the Federal District Court in Portland. The State signed a *Consent Order* with the Doane Lake Industrial Group in January 1990 to conduct a hydrogeological investigation of the Doane Lake Area

Environmental Progress

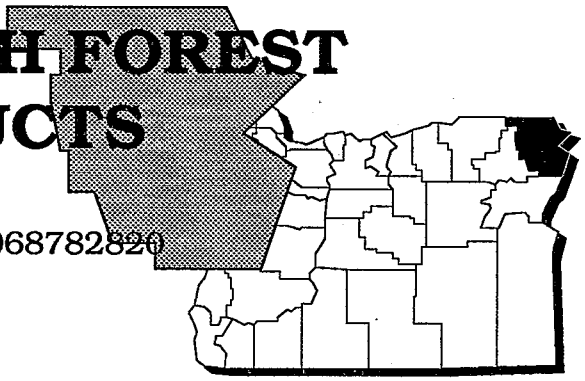


After adding this site to the NPL, the EPA conducted preliminary investigations and determined that no immediate actions were needed while field demonstrations leading to final cleanup activities at the Gould, Inc. site are under way.

JOSEPH FOREST PRODUCTS

OREGON

EPA ID# ORD068782820



REGION 10

CONGRESSIONAL DIST. 02

Wallowa County

1 mile northwest of the Town of Joseph

Site Description

Joseph Forest Products formerly treated wood on an 18 1/2-acre site approximately 1 mile northwest of the Town of Joseph. The wood treatment process used a water-based mixture of *chromated copper arsenate* (CCA). After the treatment cycle was completed, the treatment solution was pumped from the retort vessel into a storage tank for reuse. The portion of the solution that could not be pumped from the retort vessel was drained into a 2,042-gallon cement *sump* and later transferred to the storage tank. Wood waste, *sludges*, and other process wastes were stored in a cement pit. A fire in 1974 destroyed the treatment building and resulted in a spill of concentrated preservative mixture to the ground. Treatment operations did not resume at the site until the latter part of 1977. In 1985, the EPA detected elevated levels of contaminants in on-site soils. The wood treating operation was closed in 1985. Currently, wood cutting and planing are the only activities at the site. The shallow *aquifer* lies 5 to 10 feet below the surface and is overlain by very permeable soils, conditions that facilitate movement of contaminants into groundwater. Approximately 1,000 people live within 3 miles of the site. Groundwater within 3 miles of the site provides drinking water to over 2,000 people. The city of Enterprise obtains drinking water from springs 4,000 feet from the site. Groundwater is also used for irrigation. The site lies within the City of Enterprise *Watershed* Protection Area. The Wallowa River is 400 feet east of the site and is used for recreational purposes.

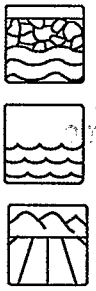
Site Responsibility: The site is being addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 03/31/89

Threats and Contaminants



Elevated levels of arsenic, chromium, and lead exist in on-site groundwater, *sediment*, and soil. Arsenic and chromium were also detected in standing water from the cement pit. Individuals who accidentally ingest groundwater, soil, sediments, or surface water may be at risk. Inhalation of windblown contaminated dust particles may also pose a potential health threat. The Wallowa River and Hurricane Creek may be threatened by the site contaminants.

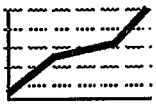
Cleanup Approach

The site is being addressed through a single *long-term remedial phase* focusing on the entire site.

Response Action Status

Entire Site: The EPA initiated an investigation in 1989 to determine the type and extent of contamination at the site and to identify alternative remedies for final cleanup. The EPA expects the investigation to be completed and the remedy chosen by 1992.

Environmental Progress

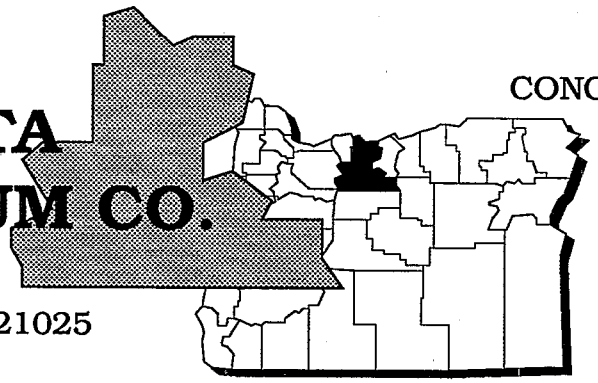


The EPA conducted an initial evaluation of the Joseph Forest Products site and determined the site does not pose an imminent threat to human health or the environment while investigations leading to the selection of final cleanup remedies are taking place.

MARTIN-MARIETTA ALUMINUM CO.

OREGON

EPA ID# ORD052221025



REGION 10

CONGRESSIONAL DIST. 02

Wasco County
The Dalles

Site Description

The 350-acre Martin-Marietta Aluminum Co. site is located in The Dalles. The site lies within an 800-acre area used primarily for heavy industry and manufacturing; land not used for industrial processes is leased for agricultural purposes. Martin Marietta Corporation (MMC) acquired the facility in 1970 from Harvey Aluminum, Inc. and continued aluminum processing operations until 1984, when the plant was shut down. In 1986, MMC leased the plant and an adjacent portion of the property to Northwest Aluminum Company, which resumed aluminum operations in 1987. The site consists of 28 areas of significant contamination resulting from treatment, storage, and disposal practices at the site. A 15-acre *landfill* located near the aluminum reduction building contains approximately 200,000 cubic yards of waste and plant construction debris including asbestos, metallic wastes, and 5,000 tons of spent potliner materials (cathode waste) containing cyanide, *polycyclic aromatic hydrocarbons* (PAHs), and arsenic. *Leachate* emanating from the landfill prior to the installation of a leachate collection system has resulted in the contamination of the area *aquifer*. In addition to the landfill, approximately 64,670 cubic yards of cathode waste material was deposited in the unloading area and the cathode waste management areas. Scrubber *sludge* ponds, consisting of four surface *impoundments*, two of which are covered with soil and vegetation, cover 15 acres and contain contaminated sludge and subsoil. Less than 20 homes and businesses are located in the area of the site. The nearest residence is approximately 1/4 mile from the facility. Groundwater provides drinking water to 14,000 people in The Dalles and Chenoweth. The wells are also used in the immediate vicinity for industrial purposes. The nearest well is approximately 2,000 feet from a waste pile.

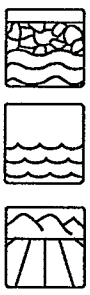
Site Responsibility: The site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 10/15/84

Final Date: 06/10/86

Threats and Contaminants



Perched groundwater on site is contaminated with cyanide. *Sediments* and soil contain fluoride asbestos, PAHs, and arsenic. People who ingest or come into direct contact with groundwater, soil, and sediments may be at risk. Because the site is within the Columbia River floodplain, flooding may affect groundwater flow patterns and contaminant distribution.

Cleanup Approach

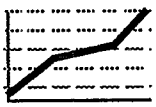
The site is being addressed in a single *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Entire Site: Based on the results of an investigation completed in 1988, the EPA has selected a two-stage cleanup. The first stage of the cleanup, which was completed in 1990 by the potentially responsible parties, under EPA monitoring, consisted of: (1) excavating the cathode waste material and placing it into the existing landfill; (2) installing a soil *cap* over scrubber sludge ponds 2 and 3; and (3) groundwater monitoring. The second stage will include: (1) capping the landfill; (2) collecting and treating on-site leachate generated from the landfill and perched water east of River Road, as well as perched water from a variety of places at the site; (3) plugging and abandoning nearby production wells and connecting groundwater users to the City of The Dalles water supply system; (4) establishing a contingency plan to recover groundwater in the event further contamination is detected; and (5) implementing site use restrictions or fencing following the cleanup. Stage 2 activities began in mid-1990 and are scheduled to be completed in late 1990.

Site Facts: In July 1989, Martin-Marietta signed a *Consent Decree* agreeing to perform the cleanup work and to reimburse the EPA for past response action costs.

Environmental Progress

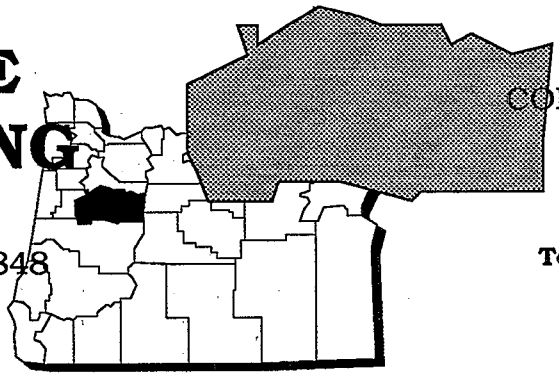


Excavating the cathode waste material, capping the sludge ponds, and groundwater monitoring have significantly reduced the threat to the public and the environment while final cleanup activities continue at the Martin-Marietta Aluminum Co. site.

TELEDYNE WAH CHANG

OREGON

EPA ID# ORD050955848



REGION 10

CONGRESSIONAL DIST. 05

Linn County

Millersburg

Alias:
Teledyne Wah Chang - Albany

Site Description

The Teledyne Wah Chang plant in Millersburg is one of the largest producers of zirconium and other rare earth metals and alloys in the world. The plant's products are principally used in the nuclear power industry and by the U. S. Department of Defense (DOD). The site includes a 110-acre plant and a 115-acre area where the plant's wastewater treatment ponds are located. Production at the site began in 1957. Process wastes disposed of on site contained radiation, heavy metals, and chlorinated solvents. Solids generated from the process wastewater treatment system have been stored in a number of surface *impoundments*. Until 1980, *sludges* were taken to seven unlined storage ponds on site, including the Lower River Solids Pond and Schmidt Lake, both of which are adjacent to the Willamette River. In 1979, the plant added a process to reduce radiation in sludges and wastewater. On-site waste storage areas are not fenced. Approximately 20,000 people live within 3 miles of the site. About 1,500 employees work on site, with as many as 2,000 people previously employed at the plant. The Willamette River, and Truax and Murder Creeks border the facility and are used for recreational activities, irrigation, watering of livestock, and fishing. Municipalities downstream from the site do not use the Willamette River as a drinking water source. Private wells in use within the vicinity of the site are not contaminated.

Site Responsibility: The site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

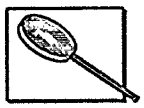
Threats and Contaminants

On-site sludge is contaminated with thorium, uranium, radium, and heavy metals. Potential health threats include direct contact with and accidental ingestion of contaminated sludges.

Cleanup Approach

The site is being addressed in two *long-term remedial phases* focusing on cleanup of the entire site and the contaminated sludge.

Response Action Status

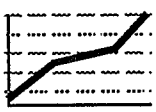


Entire Site: Teledyne Wah Chang, under EPA oversight, is conducting an investigation into the nature and extent of site contamination. The investigation will define the contaminants of concern and will recommend alternatives for final cleanup. The investigation is expected to be completed in 1992.

Sludges: The selected technologies for cleanup include removing the sludges from the Lower River Solids Pond and Schmidt Lake; solidifying the sludges by adding cement to bind the contaminants and reduce their mobility, making the sludge easier to handle during cleanup; and relocating the mixture to a permitted off-site disposal facility. Teledyne Wah Chang, under EPA monitoring, is preparing the technical specifications and design for the selected remedy. The design phase is scheduled for completion in 1991.

Site Facts: In 1987, Teledyne Wah Chang signed a *Consent Agreement* with the EPA requiring the company to study the nature and extent of site contamination and develop cleanup alternatives.

Environmental Progress

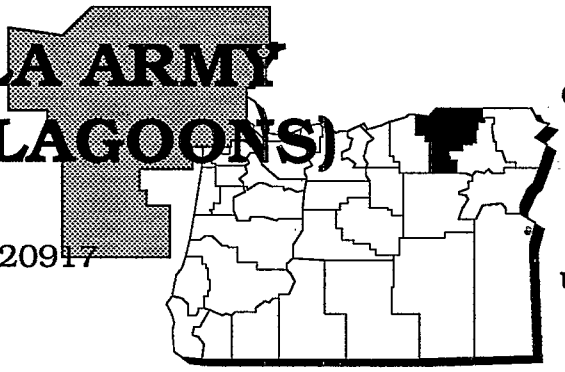


The EPA conducted an initial evaluation of the site and determined the Teledyne Wah Chang site does not pose a threat to human health or the environment while design of the final cleanup alternatives is taking place.

UMATILLA ARMY DEPOT (LAGOONS)

OREGON

EPA ID# OR6213820917



REGION 10

CONGRESSIONAL DIST. 02

Umatilla County

Hermiston

Aliases:
Umatilla Depot Activity
U. S. Army Umatilla Depot Activity

Site Description

The Umatilla Army Depot (Lagoons) site occupies about 20,000 acres in Hermiston and has operated as a storage depot for chemical warfare agents since 1941. Parts of the depot were contaminated with explosives and metals as a result of past demilitarization and disposal operations. About 85 million gallons of wastewater from explosive washout operations were discharged into two unlined *lagoons* from the mid-1950s to 1965. The lagoons cover about 1/2 acre. The groundwater contaminant *plume* is estimated to cover 45 acres. Access to the site is restricted. There are about 100 people living on post and approximately 900 people within 3 miles of the site. The distance from the site to the closest residence is 2 miles. The nearest potable well is about 6,500 feet from the disposal area and could be contaminated. Area groundwater flow varies seasonally. Commercial agriculture is conducted within the vicinity of the depot and crops are irrigated with area groundwater.

Site Responsibility: The site is being addressed through Federal actions.

NPL LISTING HISTORY
Proposed Date: 10/15/84
Final Date: 07/22/87

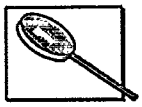
Threats and Contaminants

On-site groundwater and soil are contaminated with explosives including dinitrotoluene (DNT) and trinitrotoluene (TNT). Soil also contains heavy metals such as lead and arsenic. Potential health threats include ingestion and direct contact with contaminated groundwater and soil.

Cleanup Approach

The site is being addressed in a single *long-term remedial phase* focusing on cleanup of 10 distinct areas including: the Explosive Washout Lagoons; Ammunition Demolition Activity Area; Inactive *Landfills*; Remote Munitions Disassembly Area; Deactivation Furnace Area; Sewage Treatment Plant; Active Landfill; Defense Reutilization Marketing Office; Chemical Agent/Decontamination Area; and Miscellaneous Areas.

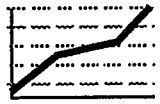
Response Action Status



Entire Site: In 1990, the Army, under EPA and State monitoring, began an investigation into the nature and extent of contamination at the 10 areas. The investigation, which is expected to be completed in 1992, will define the contaminants of concern and recommend alternatives for final cleanup.

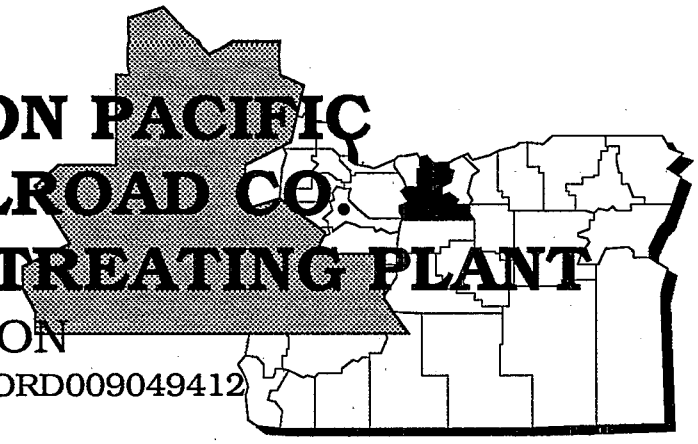
Site Facts: A three-party *Interagency Agreement* between the Army, the EPA, and the State was signed in October 1989. The agreement outlines the procedures for conducting an investigation at the site. Umatilla Army Depot has submitted a Resource Conservation and Recovery Act (RCRA) permit application to the EPA to construct and operate an incineration facility for demilitarizing obsolete chemical agents presently stored on site. Umatilla is targeted for closure under the Base Closure and Realignment Act. This installation is participating in the *Installation Restoration Program* (IRP), a specially funded program developed in 1978 by the Department of Defense (DOD) to identify, control, and investigate hazardous wastes on military or other DOD installations.

Environmental Progress



After adding this site to the NPL, the EPA and the Army determined that no immediate actions were required at the Umatilla Army Depot while investigations are taking place and cleanup activities are being planned.

UNION PACIFIC RAILROAD CO. TIE TREATING PLANT



OREGON

EPA ID# ORD009049412

REGION 10

CONGRESSIONAL DIST. 02

Wasco County

The Dalles

Alias:
J. H. Baxter

Site Description

The Union Pacific Railroad Co. Tie Treating Plant site covers 83 acres in a mixed commercial and residential area just south of the Columbia River in the City of The Dalles. Union Pacific owned the wood treatment facility from 1926 until late 1987, when equipment and structures were purchased by Kerr-McGee Chemical Corporation; however, Union Pacific retained ownership of the land and responsibility for all pre-1987 contamination of soil and groundwater. The plant primarily treated railroad ties for Union Pacific, but also treated wood for other commercial users across the U.S. From 1959 to 1987, J. H. Baxter Co. operated the plant for Union Pacific. The facility treated wood with copper arsenate, *creosote*, a creosote/fuel mixture, and *pentachlorophenol* (PCP). Spills of treatment solutions and wastewater ponds no longer in use are thought to be the main source of contamination. Improvements in the wastewater treatment system allows the site to operate as a zero discharge facility. Groundwater is used by over 11,000 people within 3 miles of the site. The City of The Dalles has increased its monitoring of municipal supply wells.

Site Responsibility: The site is being addressed through a combination of Federal, State, and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 10/26/89

Threats and Contaminants

Groundwater and soils contain creosote components, PCP, fuel oil, ammonia and arsenic. Contamination by arsenic and *volatile organic compounds* (VOCs) is greatest in the shallow and intermediate *aquifers* beneath the site. Deep aquifers contain phenanthrene and naphthalene. Potential health risks may exist from ingestion of or direct contact with the contaminated groundwater and soils.

Cleanup Approach

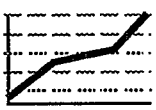
The site is being addressed in a single *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Entire Site: Union Pacific, under State supervision, is conducting an investigation into the nature and extent of contamination at the site. The investigation is scheduled to be completed in 1991.

Site Facts: In May 1989, Union Pacific signed a *Consent Order* with the State and agreed to undertake an investigation to determine the extent of site contamination.

Environmental Progress

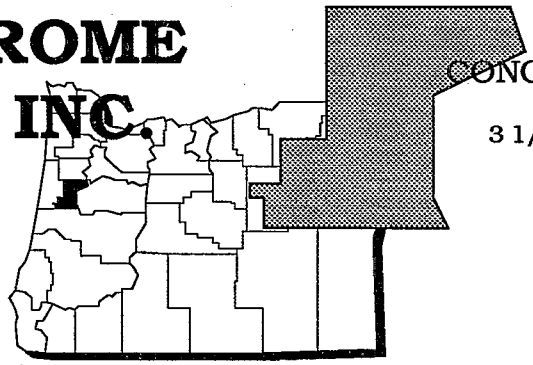


At the time this summary was written, the Union Pacific Railroad Co. Tie-Treating Plant site had just been proposed for National Priority List status and it is too early to discuss environmental progress. A study will be performed to assess the need for any intermediate actions to ensure public health while investigations leading to final cleanup actions are taking place. Results of this assessment will be described in our next edition.

UNITED CHROME PRODUCTS, INC.

OREGON

EPA ID# ORD009043001



REGION 10

CONGRESSIONAL DIST. 05

Benton County

3 1/2 miles south of Corvallis

Site Description

The 2 1/2-acre United Chrome Products, Inc. site is a former chrome plating facility located in an industrial complex adjacent to the Corvallis Municipal Airport, 3 1/2 miles south of the City of Corvallis. The company conducted electroplating operations from 1956 to 1985. An on-site dry well was used to dispose of floor drippings, washings, and product rinsate collected in a *sump* within the building. The liquids were reportedly neutralized with sodium hydroxide and/or soda ash prior to disposal. Major use of the dry well was discontinued in 1975. As a result of an immediate action to *stabilize* the site, all hazardous substance source materials were removed with the exception of residual *sludges* in the bottom of the plating tanks. However, there is considerable chromium contamination in the soil beneath and around the site of the former building and in the upper and lower *aquifers* as a result of *leaching* from the dry well and plating tanks. Although the City of Corvallis water supply is not presently threatened, cleanup is necessary to prevent chromium from leaving the site or further contaminating the lower aquifer. Two city wells are located approximately 3,000 feet northeast of the site. Contamination extends over 2 miles off site in surface water, and over 1 1/2 miles off site in *sediments*. Approximately 42,000 people obtain drinking water within 3 miles of the site. The closest residence is approximately 900 feet northeast of the facility. Corvallis obtains some of its water from the Willamette River, which formerly received drainage from ditches and surface water from the site until cleanup measures were implemented.

Site Responsibility: The site is being addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 09/08/83

Final Date: 09/21/84

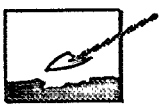
Threats and Contaminants

Sediments, soils, and shallow zone and deep aquifer groundwater are contaminated with chromium. The surface water contamination has been cleaned up. Exposure to contaminants may occur through direct contact or ingestion of contaminated groundwater, sediments, and soil.

Cleanup Approach

The site is being addressed in two stages: immediate actions and a single *long-term remedial phase* focusing on cleanup of the entire site.

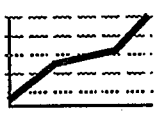
Response Action Status



Immediate Actions: In 1985, a total of 8,130 gallons of chromium-contaminated liquids and 11,000 pounds of hazardous waste solids were shipped off site for recycling or disposal.

Entire Site: In 1986, the following remedies were selected to clean up the site: (1) installation of approximately 15 shallow wells in the upper confined groundwater zone; (2) installation of 5 deep wells in the lower confined production aquifer; (3) limited excavation of contaminated soil and off-site disposal; (4) installation of on-site treatment equipment (chemical reduction and precipitation) to remove chromium from extracted groundwater; (5) construction of two percolation basins to flush soil; and (6) installation of *culverts* to remediate the surface water contamination. The United Chrome building, which was contaminated with chromium dust, was demolished in 1988. The contaminated debris from the building and the heavily contaminated soil that was excavated from the disposal pit and plating tank areas were disposed of off site. A pump and treat system, consisting of 23 extraction wells, 2 infiltration basins, and an on-site treatment plant, began operations to remove chromium contamination from the groundwater in 1988. An alternate water supply was provided to the airport area (approximately 5,000 people), and the site was fenced. Up to ten additional wells may be installed in the deep aquifer to better define the deep aquifer *plume*. Surface drainage control measures were implemented. Additional infiltration trenches may also be installed, as warranted. The pumping and treating of contaminated groundwater will continue for several more years before the site cleanup is completed.

Environmental Progress



The removal of the sources of contamination, the installation of a groundwater pump and treat system and culverts, and the provision of an alternate water supply have significantly reduced the threat the United Chrome Products, Inc. site posed to the public and the environment, while pumping and treating of groundwater continues toward completing cleanup efforts.

GLOSSARY:

TERMS USED IN THE FACT SHEETS

*This glossary defines the **italicized** terms used in the site fact sheets for the State of Oregon. The terms and abbreviations contained in this glossary are often defined in the context of hazardous waste management as described in the site fact sheets, and apply specifically to work performed under the Superfund program. Thus, these terms may have other meanings when used in a different context.*

Acids: Substances, characterized by low pH (less than 7.0) that are used in chemical manufacturing. Acids in high concentration can be very corrosive and react with many inorganic and organic substances. These reactions may possibly create toxic compounds or release heavy metal contaminants that remain in the environment long after the acid is neutralized.

Administrative Order On Consent: A legal and enforceable agreement between EPA and the parties potentially responsible for site contamination. Under the terms of the Order, the potentially responsible parties agree to perform or pay for site studies or cleanups. It also describes the oversight rules, responsibilities and enforcement options that the government may exercise in the event of non-compliance by potentially responsible parties. This Order is signed by PRPs and the government; it does not require approval by a judge.

Aquifer: An underground layer of rock, sand, or gravel capable of storing water within cracks and pore spaces, or between grains. When water contained within an aquifer is of sufficient quantity and quality, it can be tapped and used for drinking or other purposes. The water contained in the aquifer is called groundwater.

Cap: A layer of material, such as clay or a synthetic material, used to prevent rainwater from penetrating and spreading contaminated materials. The surface of the cap is generally mounded or sloped so water will drain off.

Chromated Copper Arsenate: An insecticide/herbicide formed from salts of three toxic metals: copper, chromium, and arsenic. This salt is used extensively as a wood preservative in pressure-treating operations. It is highly toxic and water soluble, making it a relatively mobile contaminant in the environment.

GLOSSARY

Consent Decree: A legal document, approved and issued by a judge, formalizing an agreement between EPA and the parties potentially responsible for site contamination. The decree describes cleanup actions that the potentially responsible parties are required to perform and/or the costs incurred by the government that the parties will reimburse, as well as the roles, responsibilities, and enforcement options that the government may exercise in the event of non-compliance by potentially responsible parties. If a settlement between EPA and a potentially responsible party includes cleanup actions, it must be in the form of a consent decree. A consent decree is subject to a public comment period.

Consent Order: [see Administrative Order on Consent].

Creosotes: Chemicals used in wood preserving operations and produced by distillation of tar, including polycyclic aromatic hydrocarbons and polynuclear aromatic hydrocarbons [see PAHs and PNAs]. Contaminating sediments, soils, and surface water, creosotes may cause skin ulcerations and cancer with prolonged exposure.

Culvert: A pipe under a road, railroad track, path, or through an embankment used for drainage.

Hydrogeology: The geology of groundwater, with particular emphasis on the chemistry and movement of water.

Impoundment: A body of water or sludge confined by a dam, dike, floodgate, or other barrier.

Installation Restoration Program: The specially funded program established in 1978 under which the Department of Defense has been identifying and evaluating its hazardous waste sites and controlling the migration of hazardous contaminants from those sites.

Interagency Agreement: A written agreement between EPA and a Federal agency that has the lead for site cleanup activities (e.g. the Department of Defense), that sets forth the roles and responsibilities of the agencies for performing and overseeing the activities. States are often parties to interagency agreements.

Lagoon: A shallow pond where sunlight, bacterial action, and oxygen work to purify wastewater. Lagoons are typically used for the storage of wastewaters, sludges, liquid wastes, or spent nuclear fuel.

Landfill: A disposal facility where waste is placed in or on land.

Leachate [n]: The liquid that trickles through or drains from waste, carrying soluble components from the waste. **Leach, Leaching [v.t.]:** The process by which soluble chemical components are dissolved and carried through soil by water or some other percolating liquid.

Long-term Remedial Phase: Distinct, often incremental, steps that are taken to solve site pollution problems. Depending on the complexity, site cleanup activities can be separated into a number of these phases.

Pentachlorophenol (PCP): A synthetic, modified petrochemical that is used as a wood preservative because of its toxicity to termites and fungi. It is a common component of creosotes and can cause cancer.

Perched (groundwater): Groundwater separated from another underlying body of groundwater by a confining layer, often clay or rock.

Plume: A body of contaminated groundwater flowing from a specific source. The movement of the groundwater is influenced by such factors as local groundwater flow patterns, the character of the aquifer in which groundwater is contained, and the density of contaminants.

Polycyclic Aromatic Hydrocarbons or Polyaromatic Hydrocarbons (PAHs): PAHs, such as pyrene, are a group of highly reactive organic compounds found in motor oil. They are a common component of creosotes and can cause cancer.

Potentially Responsible Parties (PRPs): Parties, including owners, who may have contributed to the contamination at a Superfund site and may be liable for costs of response actions. Parties are considered PRPs until they admit liability or a court makes a determination of liability. This means that PRPs may sign a consent decree or administrative order on consent [see Administrative Order on Consent] to participate in site cleanup activity without admitting liability.

Runoff: The discharge of water over land into surface water. It can carry pollutants from the air and land into receiving waters.

Sediment: The layer of soil, sand and minerals at the bottom of surface waters, such as streams, lakes, and rivers that absorb contaminants.

Sludge: Semi-solid residues from industrial or water treatment processes that may be contaminated with hazardous materials.

Stabilization: The process of changing an active substance into inert, harmless material, or physical activities at a site that act to limit the further spread of contamination without actual reduction of toxicity.

Sumps: A pit or tank that catches liquid runoff for drainage or disposal.

Volatile Organic Compounds (VOCs): VOCs are made as secondary petrochemicals. They include light alcohols, acetone, trichloroethylene, perchloroethylene, dichloroethylene, benzene, vinyl chloride, toluene, and methylene chloride. These potentially toxic chemicals are used as solvents, degreasers, paints, thinners, and fuels. Because of their volatile nature, they readily evaporate into the air, increasing the potential exposure to humans. Due to their low water solubility, environmental persistence, and widespread industrial use, they are commonly found in soil and groundwater.

Watershed: The land area that drains into a stream or other water body.